To: Way, Steven[way.steven@epa.gov]; Bruce Stover - DNR[bruce.stover@state.co.us]; jeff.graves@state.co.us[jeff.graves@state.co.us]
From: Sorrenson - DNR, Allen
Sent: Thur 2/19/2015 9:17:44 PM
Subject: red and bonita tech meeting
American Tunnel no 1 Bulkhead Design.xlsx
Red and Bonita Bulkhead Design existing mine pool pressure.xlsx
Red and Bonita Bulkhead Design max pressure.xlsx

Attached are three spreadsheets for discussion in our meeting. I'll be able to display these on the big screen in the meeting room, so you don't have to print them or anything. The R&B max pressure considers hydrostatic head to Lake Emma location exerted at the proposed bulkhead. This is not going to happen, but is worthy of discussion. You can see on the hydrofrac tab that this extreme level of pressure is marginal for the potential to hydrofrac, and the indication is, based on the Norwegian Tunnel criteria, the fractures will jack and dilate under this amount of pressure.

The R&B existing mine pool pressure considers the hydrostatic head of the Sunnyside Mine pool at the R&B proposed bulkhead. Also a conservative consideration, at least while Gold King and Mogul Mines continue to discharge unabated. The American Tunnel #1 bulkhead design spreadsheet is also attached. We can talk around these spreadsheets and some maps and other info that can be displayed on the big screen. We can also discuss the merits of a two bulkhead design; not a desirable path for the R&B, but worth discussing. Jeff and I have already talked through some of this stuff over the past few days. Thanks you guys, Allen

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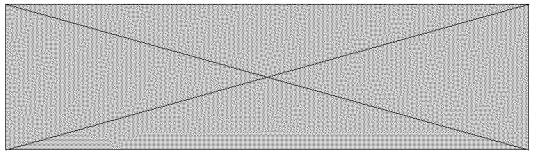
Allen C. Sorenson

Project Manager/Geological Engineer

Inactive Mine Reclamation Program



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